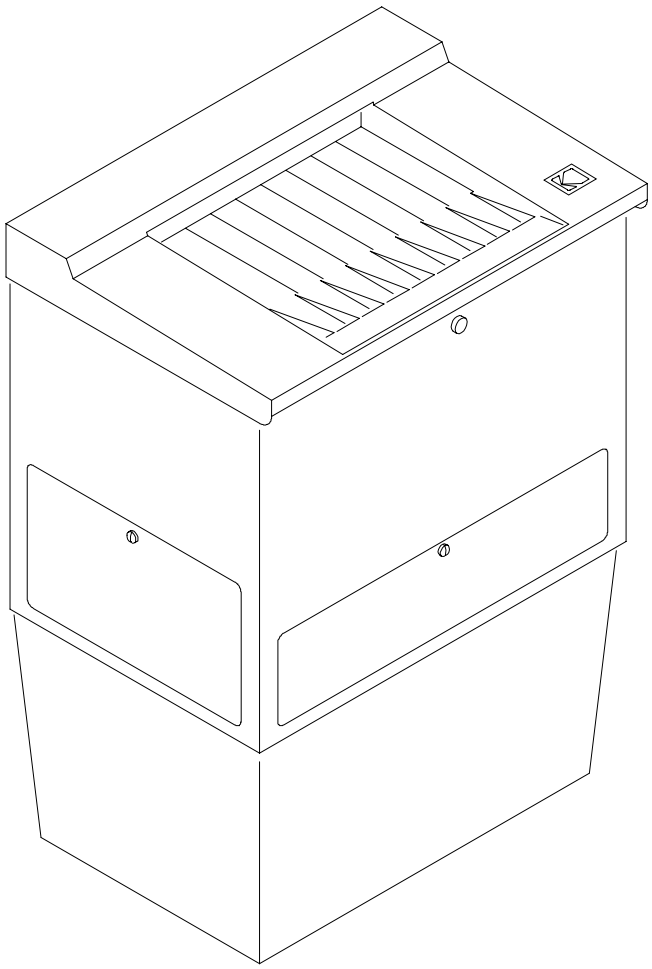
Publication No. 632732
17SEP99
Supersedes 632732
27APR98

OPERATOR MANUAL
for the
Kodak RP *X-Omat* PROCESSOR, MODEL M7B
Kodak RP *X-Omat* PROCESSOR, MODEL M7B-E



H054_0054DA

HEALTH IMAGING

© Eastman Kodak Company, 1999

PLEASE NOTE The information contained herein is based on the experience and knowledge relating to the subject matter gained by Eastman Kodak Company prior to publication.

No patent license is granted by this information.

Eastman Kodak Company reserves the right to change this information without notice, and makes no warranty, express or implied, with respect to this information. Kodak shall not be liable for any loss or damage, including consequential or special damages, resulting from any use of this information, even if loss or damage is caused by Kodak's negligence or other fault.

Warning

To avoid hazardous conditions, keep floors and floor coverings around your *Kodak X-Omat* PROCESSOR and associated drains clean and dry at all times. Any accumulation of fluids from mixing tanks, drain lines, etc., should be cleaned up immediately. In the event of an accumulation of liquid due to backup, overflow, or other malfunctions of the drain associated with your *Kodak X-Omat* PROCESSOR, call a plumber or other contractor to correct any problem with the drain. Kodak accepts no responsibility or liability whatsoever for the serviceability of any drain connected to or associated with a *Kodak X-Omat* PROCESSOR. Such drains are the sole responsibility of the customer.

Table of Contents

Description	Page
Safety Information	3
Processing Film	4
Overview	4
Start Up	4
Operating Notes	6
Film-Feeding Procedure	6
Shutdown	7
Cleaning and Preventive Maintenance	8
Daily	8
Weekly (or whenever solutions are changed)	9
Periodically (in addition to the Daily and Weekly procedures)	10
Checking the Replenishment Flow Rates	11
Correcting Difficulties	12
New Equipment Warranty	15
Warranty Coverage	15
How to Obtain Service	15
Limitations	15

Section 1: Safety Information

Observe the following SAFETY LABELS on the equipment:

CAUTION: HOT SURFACE, AVOID CONTACT
ATTENTION: EVITER LE CONTACT, PIECES BRULANTES
VORSICHT: HEISSE OBERFLAECHE, BERUEHRUNG VERMEIDEN

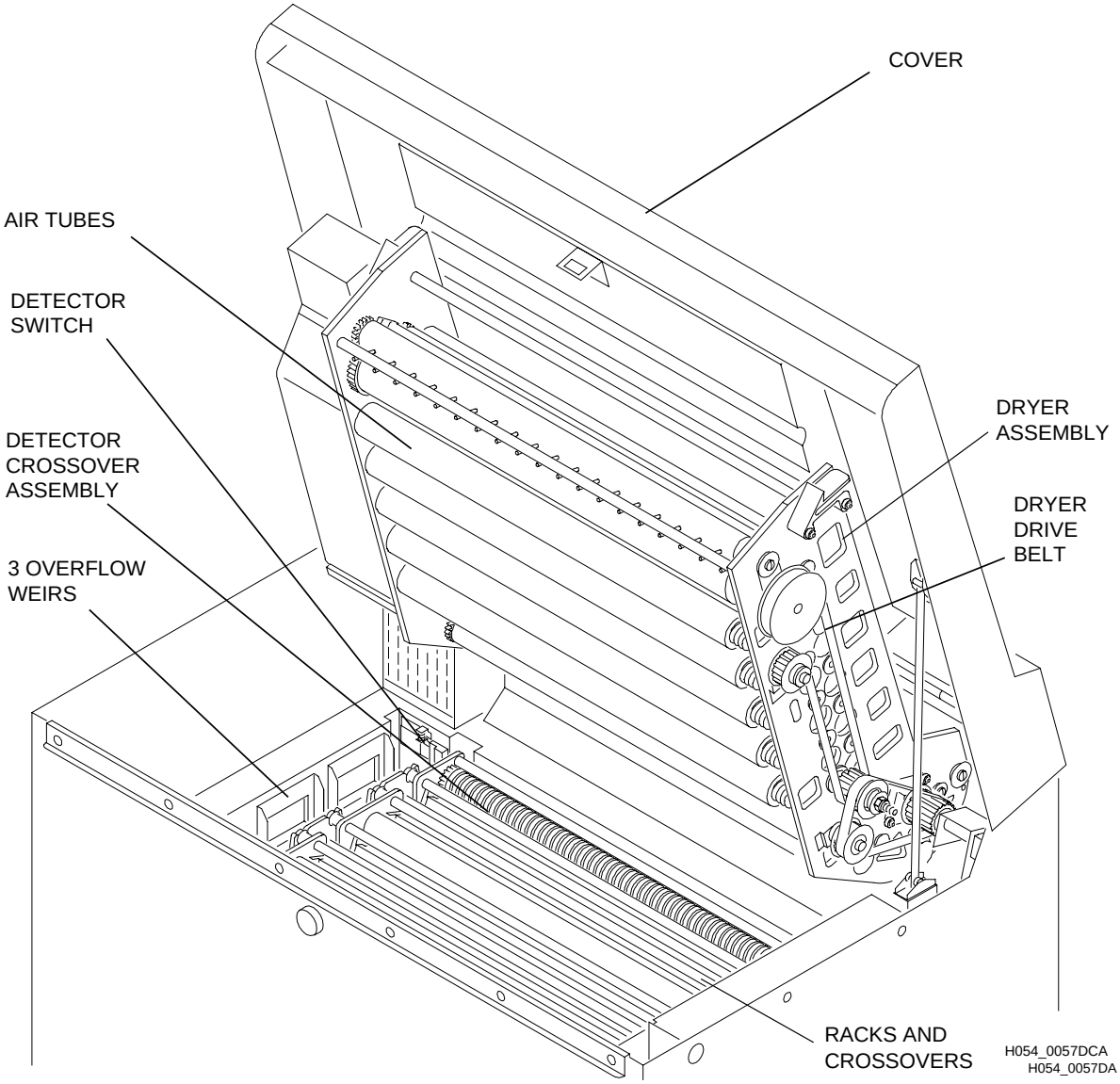
B093_5915BC

Section 2: Processing Film

Overview

The *Kodak* RP *X-Omat* PROCESSOR, MODELS M7B and M7B-E will process all films designed for processing with *Kodak* RP *X-Omat* DEVELOPER and REPLENISHER and *Kodak* RP *X-Omat* FIXER and REPLENISHER, or equivalents.

Start-Up



Warning

Hot Surfaces

[1] Lift:

- COVER
- DRYER ASSEMBLY

[2] Check that the RACKS and CROSSOVERS are seated correctly.

[3] Push down and seat the WASH TANK OVERFLOW WEIR, so the WASH TANK can fill.

[4] Check:

- DEVELOPER and FIXER are at the overflow level of the WEIRS
- EVAPORATION COVERS are in position

Caution

Use care when positioning the WET SECTION COVER between the wet and dry sections.

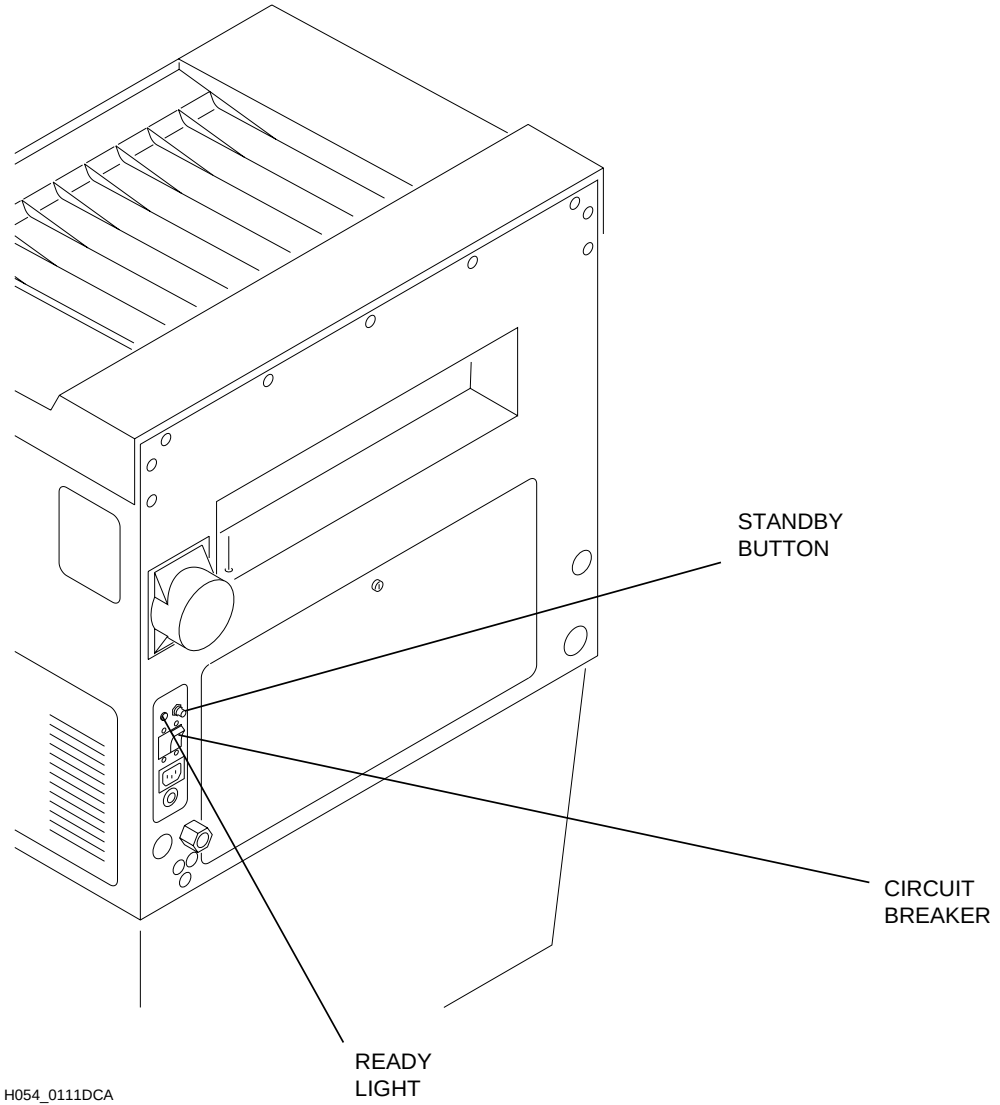
[5] Check that the WET SECTION COVER is in position.

[6] Carefully lower the DRYER ASSEMBLY.

[7] Close the COVER.

[8] Turn on:

- cold-water supply temperature: 4.5 – 26.5˚C (40 – 80˚F)
- Main Power Source
- CIRCUIT BREAKER



H054_0111DCA
H054_0111DA

[9] Check that the “READY” LIGHT blinks when the PROCESSOR is ready to accept film.

[10] Press the “STANDBY” BUTTON.

[11] Feed a cleanup film when the “READY” LIGHT begins to blink.

[12] Check for transport reliability and/or film artifacts.

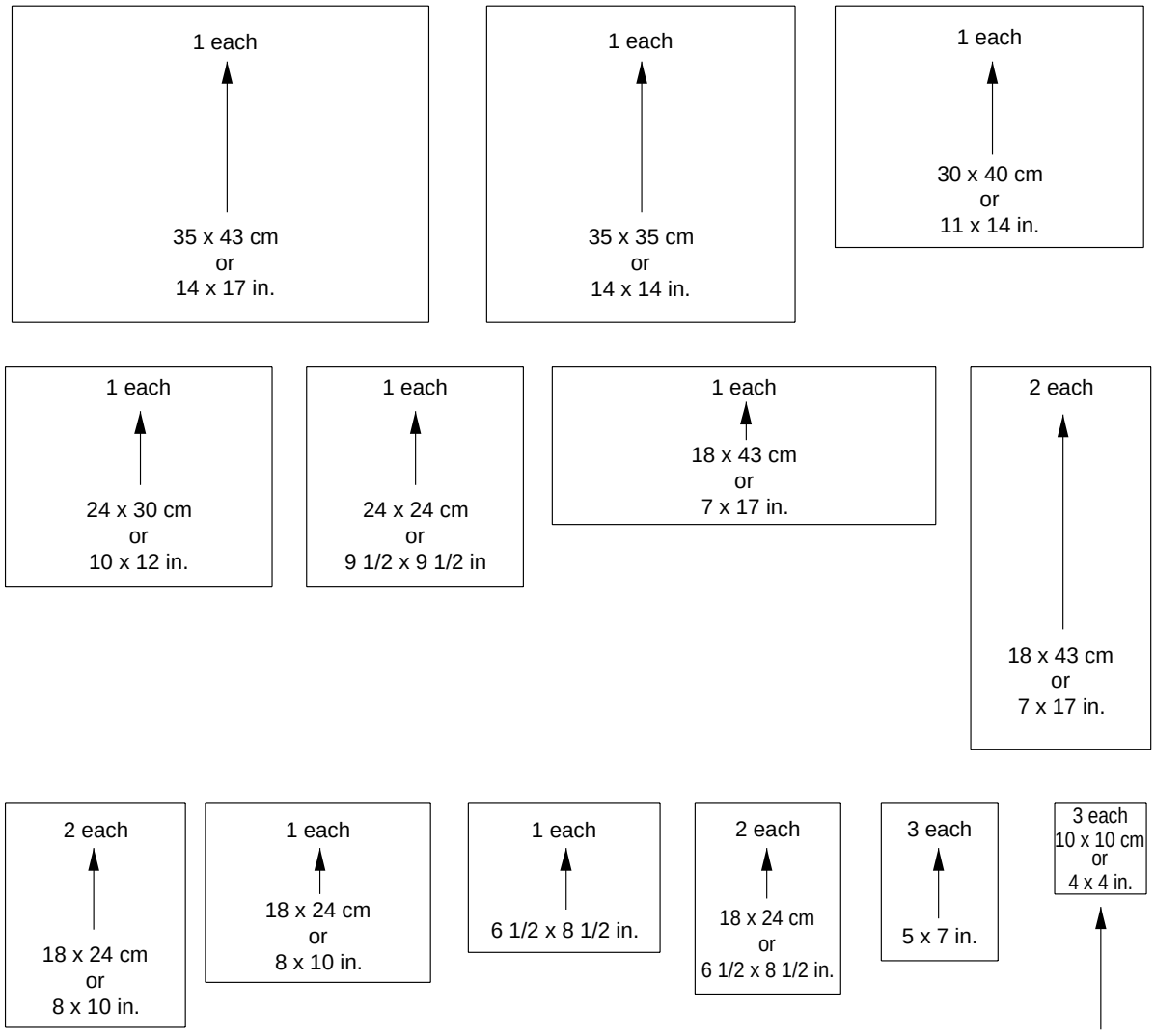
Operating Notes

[1] Check the “READY” LIGHT frequently during operation:

- **Steady Light** - DEVELOPER is coming up to temperature.
- **Blinking Light** - DEVELOPER is at the correct operating temperature.
- **No Light** - DEVELOPER is above the set operating temperature.

[2] The PROCESSOR will automatically go into the “Standby Mode” approximately 3 minutes after the last film has been fed into it. To return the PROCESSOR to normal operation, press the “STANDBY” BUTTON before feeding film.

Film-Feeding Procedure



H112_9007DC

[1] Feed Sheet Film:

- in the direction of the arrow shown
- into the PROCESSOR square with the edge of the FILM GUIDE

[2] Roll Film use:

- a leader of sheet film at least as wide as the roll film, and at least 17.8 cm (7 in.) long.
- 1 in. wide tape, such as *3M Scotch*™ Polyester Film Tape No. 850, to attach the film to the leader.
  - Make sure that the adhesive side of the tape is not exposed.
  - Most other tapes are not suitable due to the solubility of their bases in the processing solutions.

Shutdown

[1] Turn off:

- CIRCUIT BREAKER
- Main Power Source
- Water Supply

Warning
Hot Surfaces

[2] Lift:

- COVER and DRYER ASSEMBLY to the highest position (Keep them open overnight to vent.)
- WASH TANK OVERFLOW WEIR to drain the WASH TANK

[3] Remove:

- 2 EVAPORATION COVERS
- WET SECTION COVER

[4] Do the “Daily” procedure on Page 8.

Section 3: Cleaning and Preventive Maintenance

Daily

Important

The optimum time to do daily cleaning is at shutdown.

[1] Identify any change in the operating condition of the PROCESSOR to service personnel.

Warning

Dangerous Voltage

[2] De-energize the PROCESSOR. Disconnect the main power.

[3] Turn off the water supply.

Warning

Hot Surfaces

[4] Open the COVER.

Warning

- Wear rubber gloves, suitable eye protection, and protective clothing when performing the maintenance procedures.
- Handle the CROSSOVERS carefully to avoid:
  - twisting them out of square
  - disturbing the GUIDE SHOE settings
- Use a damp cloth or synthetic sponge and warm water.
- Do not use any abrasive material on the RACKS, CROSSOVERS, or SQUEEGEE ROLLERS.

[5] Remove the CROSSOVERS.

[6] Rinse the CROSSOVERS with warm water and turn the ROLLERS.

[7] Clean the ROLLERS with a damp cloth or synthetic sponge, and wipe dry.

[8] Wipe off all chemical deposits above the solution level in the processing section.

Weekly (or whenever solutions are changed)

Caution

Wear rubber gloves, suitable eye protection, and protective clothing when performing the maintenance procedures.

[1] Turn off:

- Main Power Source
- CIRCUIT BREAKER

Warning

Hot Surfaces

[2] Do the “Daily” procedure on Page 8.

Caution

FIXER will contaminate the DEVELOPER. Always use the SPLASH GUARD and the RACK DRIP TRAY when removing or installing the RACKS.

[3] Remove the RACKS.

[4] Rinse the RACKS with running water and wipe them with a clean cloth. Use a soft brush to clean off all chemical deposits.

[5] Check:

- RACK CHAIN moves freely and is adjusted correctly
- ROLLER GEARS, SPROCKETS, and IDLERS engage correctly
- space between the RACK SIDE PLATES and the TURNAROUND SIDE PLATES is equal, and that the PLATES are parallel on both sides

[6] Remove any foreign matter from the solutions.

Caution

Lower the RACKS and CROSSOVERS slowly to prevent overflow of solutions into the surrounding TANKS.

[7] Install the RACKS and CROSSOVERS.

[8] The GEARS engage when they are seated correctly.

[9] Clean the REPLENISHER STRAINERS.

[10] Check that the AIR TUBES are clean.

Periodically (in addition to the Daily and Weekly procedures)

Caution

Wear rubber gloves, suitable eye protection, and protective clothing when performing the maintenance procedures.

[1] Turn off:

- Main Power Source
- CIRCUIT BREAKER

Warning

Hot Surfaces

[2] Check the incoming water temperature: 4.5 – 26.5˚C (40 – 80˚F)

Caution

DEVELOPER temperature adjustments are to be made by qualified personnel only.

[3] Check the DEVELOPER temperature:

- 33.5˚C (92˚F) + 0.2˚C (+ 0.3˚F) - 2.5 min cycle
- 34.5˚C (94˚F) + 0.2˚C (+ 0.3˚F) - 2.0 min cycle: PROCESSORS equipped with Modification No. 2

[4] Check the replenishment rates.

Important

Never immerse the RACKS in the SYSTEM CLEANER or water when cleaning.

[5] Use a sponge and *Kodak* FIXER/WASH SYSTEM CLEANER, or equivalent, to clean the WASH and FIXER RACKS.

- To access the inner ROLLERS, remove all outer ROLLERS, except the bottom one, from the DRIVE SIDE.
- Flush the RACKS thoroughly with warm water.

[6] Use a sponge and *Kodak* DEVELOPER SYSTEM CLEANER, or equivalent, to clean the ROLLERS in the DEVELOPER RACK.

- Use the instructions packed with the cleaner.
- Flush the RACKS thoroughly with warm water.

[7] Clean the REPLENISHER and PROCESSOR TANKS with their respective cleaners.

[8] Use warm water to clean off debris and buildup from the DRYER area.

[9] Use warm water and a soft brush to clean the DETECTOR ROLLERS.

Section 4: Checking the Replenishment Flow Rates

Warning

- Hot Surfaces
- Wear rubber gloves, suitable eye protection, and protective clothing when performing the maintenance procedures.

[1] Remove:

- CROSSOVERS
- DEVELOPER RACK
- FIXER RACK

Note

Do not drain the TANKS.

[2] Install the DETECTOR CROSSOVER ASSEMBLY.

[3] Insert the CHECK TUBE into the DEVELOPER REPLENISHER INLET in the bottom of the TANK.

[4] Turn on the MAIN POWER SWITCH.

[5] Manually actuate one of the DETECTOR SWITCHES, and allow the DEVELOPER to flow through the TUBE and release any existing air in the TUBE.

[6] To check the replenishment rate, hold a GRADUATED CYLINDER under the CHECK TUBE.

[7] Feed a sheet of 35 x 43 cm (14 x 17 in.) film into the PROCESSOR.

Note

The REPLENISHMENT SOLUTION flows for 4 seconds after the trailing edge of the film leaves the DETECTOR ROLLERS.

[8] When the REPLENISHMENT PUMP stops, check that the amount of solution in the GRADUATED CYLINDER is correct according to the manufacturer's film and chemical specifications.

[9] Remove the CHECK TUBE and clean it thoroughly.

[10] Check the FIXER replenishment flow rate by doing Steps 3 - 9 for the FIXER TANK.

[11] Install the CROSSOVERS, DEVELOPER RACK, and FIXER RACK.

Note

- Drain, clean, and fill the DEVELOPER PROCESSING TANK after one month's use, or after processing fewer than 150 sheets of film in 24 hours of operation of the PROCESSOR (example three 8-hour days, two 12-hour days, etc.).
- When you process greater quantities of film, drain, clean, and fill the DEVELOPER PROCESSING TANK after 3 month's use, or as experience indicates.
- Do not mix DEVELOPER and REPLENISHER solutions in quantities larger than a 2-week supply.

Section 5: Correcting Difficulties

Important

- Many film transport and sensitometric difficulties can be caused or aggravated by inadequate hardening of the emulsion due to under-replenishment of the DEVELOPER and/or FIXER solutions.
- Another cause of inadequate hardening of the emulsion may be deterioration of the DEVELOPER REPLENISHER because of age or storage at too high a temperature. Do not mix more than a 2-week supply of DEVELOPER REPLENISHER.

1. Transport Failure	2. Surface Artifacts	3. Abnormal Film Densities	4. Wet Films	5. Low Solution Levels	6. Overlapping of Films	
1	**2**	**3**	**4**	**5**	**6**	
•					•	Film Feeding Error **Feed only single thicknesses of film. Feed the next film only after the film feed signal sounds. If there is no film feed signal, refer the difficulty to qualified service personnel.**
		•	•			Feed only compatible films.
•					•	Check that all RACKS and CROSSOVERS are seated correctly.
•						Adjust the tension of the DRYER DRIVE BELT, if necessary.
	•					Check that the surfaces of all the ROLLERS are clean and smooth, especially in the DEVELOPER TURNAROUND ASSEMBLY.
•			•			Check that the AIR TUBES are in the correct positions.
	•					Remove any dirt from the slits in the AIR TUBES. Use a bottle brush and rinse with water.
	•		•			Adjust the DRYER temperature control setting to the **lowest** possible temperature that still allows good drying.
•	•		•			Check that the TOP COVER is closed.
	•					Clean the FEED TRAY and DETECTOR ROLLERS.
•	•				•	Clean any biological growth in the WASH TANK with a mild solution of chlorine bleach. Use 60 mL (2 fl oz) of bleach per 3.8 L (1 gallon) of water. **Always raise the WASH TANK overflow WEIR to drain the WASH TANK when the PROCESSOR is shut down.**

1. Transport Failure	2. Surface Artifacts	3. Abnormal Film Densities	4. Wet Films	5. Low Solution Levels	6. Overlapping of Films	
1	**2**	**3**	**4**	**5**	**6**	
•	•	•	•		•	Change any chemicals that were not mixed correctly, are exhausted, or are contaminated. **Mix the DEVELOPER replenishment in quantities not to exceed a 2-week supply. Always use a SPLASH GUARD and RACK DRIP TRAY when lifting the FIXER RACK to prevent contaminating the DEVELOPER. Mix chemicals as directed.**
•	•					Adjust the GUIDE SHOES correctly. **Usually in the DEVELOPER Turnaround. Adjust the tips of the GUIDE SHOES in the Exit Turnaround as close as possible to the RACK ROLLER above them.**
•	•					Check that all ROLLERS are in place and rotating correctly.
•	•					Check that all ROLLER GEARS, SPROCKETS, and IDLERS are engaged.
•	•					Replace any ROLLER that has broken or worn GUDGEONS.
•	•					Replace any BEARINGS that do not allow the Turnaround ROLLERS to rotate correctly.
•	•					Check the tension on the RACK CHAIN. Check that the ROLLERS do not hesitate and that the CHAIN moves smoothly. Lower the Turnaround ASSEMBLY squarely.
		•				With the PROCESSOR on, check for movement on the surface of the solutions. Movement indicates recirculation. If the solutions are not moving, contact qualified service personnel.
				•		Check for solution in the REPLENISHMENT TANKS. Fill if necessary. **Mix the DEVELOPER replenishment in quantities not to exceed a 2-week supply.**
•	•					If the incoming wash water is dirty, clean the RACK and TANK thoroughly. Change the incoming water FILTER. Make sure to use the correct water FILTER.
				•		Check for dirt behind the CHECK VALVE POPPET SEATS, and for distorted POPPETS. Contact qualified service personnel to clean or install new POPPETS.
			•			Check that the DRYER air exhaust is free from any obstruction.
•						Check that the Turnaround ASSEMBLY is adjusted correctly. Make sure that the Turnaround ASSEMBLIES are square with the RACKS.
		•				Check the temperature of the DEVELOPER. Contact qualified service personnel to make adjustments, if necessary. **The "READY" LIGHT must be blinking before feeding film.** **The incoming DEVELOPER REPLENISHER should not exceed 26.5˚C (80˚F).**

						1. Transport Failure
						2. Surface Artifacts
						3. Abnormal Film Densities
						4. Wet Films
						5. Low Solution Levels
						6. Overlapping of Films
1	**2**	**3**	**4**	**5**	**6**	
		•				Check that the correct BULB and Safelight FILTER are in the Safelight and at the correct distance from the FEED SHELF and work surface.
		•				Check that the TOP COVER and PANELS are tight on the PROCESSOR. Check that there are no leaks in the lighttight GASKET.

Section 6: New Equipment Warranty

Warranty Coverage

Kodak warrants this PROCESSOR to function properly for 1 year from the date of initial installation, when installed within 1 year from the date of shipment.

If this equipment does not function properly during the warranty period, the dealer who sold the equipment will provide or arrange for repair of the equipment during the dealer's normal working hours. Such repair service will include any necessary adjustments and/or replacement of parts necessary to maintain your equipment in good working order.

How to Obtain Service

Should equipment require service, refer to the sales contract for details on whom to call for service, or contact the dealer who sold the equipment.

Limitations

Warranty service is limited to the contiguous United States, the island of Oahu in Hawaii, and certain areas of Alaska.

This warranty does not cover: circumstances beyond Kodak's control; misuse; abuse; any attachments, accessories, or alterations not marketed by Kodak (including service or parts to correct problems resulting from the use of such attachments, accessories or alterations); failure to follow Kodak's operating instructions; or supply items.

Kodak makes no other warranties, express, implied, or of merchantability for this equipment.

Repair without charge is Kodak's and the dealer's only obligation under this warranty.

- Kodak will not be responsible for any consequential or incidental damages resulting from the sale, use, or improper functioning of this equipment even if loss or damage is caused by the negligence or other fault of Kodak.
- Such damages for which Kodak will not be responsible, include, but are not limited to, loss of revenue or profit, downtime costs, loss of use of the equipment, cost of any substitute equipment, facilities or services or claims of your customers for such damages.

This limitation of liability will not apply to claims for injury to persons or damage to property caused by the sole negligence or fault of Kodak or by persons under its direction or control.

Print Date	Pub No.	Affected Pages	File Name	Notes
OCT 1982	632732	All	n/a	Original Printing
27APR98	632732	All	om3407_1_27apr98.fm	Revised the manual to conform with European MDD.
17SEP99	632732	All	om3407_1_17sep99.fm	Added safety information.

Kodak and *X-Omat* are trademarks.

om3407_1_17sep99.fm

Printed In USA

Health Imaging

EASTMAN KODAK COMPANY • ROCHESTER, N.Y. 14650